

Attorney's Docket: 2001D2307/D

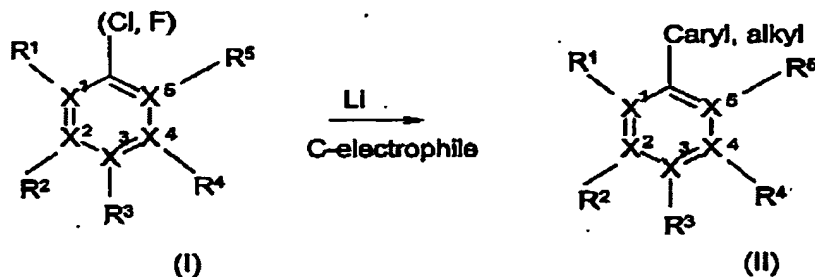
Serial No.: 10/677A12

Art Unit 1625

Response to Restriction Requirement of February 18, 2005

This listing of claims will replace all prior versions, and listings of claims in the application:

1. (Previously Presented) A process for preparing compounds of the formula (II),



where the substituents  $R^1$  to  $R^5$  are each independently H,  $CH_3$ , straight-chain or branched  $C_1$ - $C_8$ -alkyl,  $CH(OC_1-C_8-alkyl)_2$ ,  $CH(C_1-C_8-alkyl)(OC_1-C_8-alkyl)$ ,  $CH_2(OC_1-C_8-alkyl)$ ,  $CH(CH_3)(OC_1-C_8-alkyl)$ ,  $C_1$ - $C_8$ -alkoxy,  $N(C_1-C_8-alkyl)_2$ , phenyl, substituted phenyl, aryl, heteroaryl,  $S(C_1-C_8-alkyl)$  or a radical  $C_{aryl, alkyl}$ , and the symbols  $X^1$  to  $X^5$  are each carbon with a maximum of two neighboring  $X^1$ - $X^5$  are nitrogen or  $X^1R^1$  and  $X^2R^2$  together are O, NH,  $N(C_1-C_8-alkyl)$ ,  $N(C=O-C_1-C_8-alkyl)$ ,  $N(SiR_3)_2$  or S,

or where neighboring radicals  $R^1$  to  $R^5$  form the following structural unit,

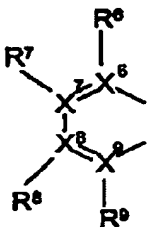
**BEST AVAILABLE COPY**

Attorney's Docket: 2001B5307/D

Serial No.: 10/677,412

Art Unit 1625

Response to Restriction Requirement of February 18, 2005



where  $X^6$  to  $X^9$  and  $R^6$  to  $R^9$  have the same meaning as  $X^1$  to  $X^5$  and  $R^1$  to  $R^5$   
and

the radical  $C_{aryl, alkyl}$  is straight-chain or branched, substituted or unsubstituted  $C_1$ - $C_8$ -alkyl, 1-hydroxyalkyl having from 1 to 8 carbon atoms, CN, 2-hydroxyalkyl having from 2 to 5 carbon atoms, 3-hydroxyalkyl having from 3 to 5 carbon atoms, 1-NHR-alkyl having from 1 to 5 carbon atoms,  $CH(OC_1-C_6-alkyl)_2$ ,  $C(C_1-C_6-alkyl)(OC_1-C_6-alkyl)$ ,  $CH_2(OC_1-C_6-alkyl)$ ,  $CH(CH_3)(OC_1-C_3-alkyl)$ ,  $C_1$ - $C_6$ -alkoxy,  $N(C_1-C_6-alkyl)_2$ , phenyl, substituted phenyl, aryl, heteroaryl,  $CO_2H$ ,  $CO_2alkyl$ ,  $(C=O)_{0.5}$ , substituted 1-vinylalkyls,  $CH_3-C(=O)$ ,  $R-C(=O)$  or  $CHO$ ,  
which comprises reacting chloro- or fluoroaromatics of the formula (I) with carbon electrophiles and lithium metal.

2. (Currently Amended) The process as claimed in claim 1, wherein the carbon electrophile is selected from the group consisting of:  
aryl or alkyl cyanates ( $C_{aryl, alkyl} = CN$ )  
oxirane, substituted oxiranes ( $C_{aryl, alkyl} = CH_2CH_2OH$ , substituted  $CR_2CR_2OH$ )

Attorney's Docket: 2001DB307/D

Serial No.: 10/677.412

Art Unit: 1625

Response to Restriction Requirement of February 18, 2005

azomethines ( $C_{aryl,alkyl} = CR^1_2-NR^1H$ )nitroenolates ( $C_{aryl,alkyl} = \text{oximes}$ )immonium salts ( $C_{aryl,alkyl} = \text{amines}$ )haloaromatics, aryl triflates, other arylsulfonates ( $C_{aryl,alkyl} = \text{aryl, heteroaryl}$ )carbon dioxide ( $C_{aryl,alkyl} = COOH$ )carbon monoxide ( $C_{aryl,alkyl} = (-CO-)_{0.5}$ )aldehydes, ketones ( $C_{aryl,alkyl} = CHR^1-OH, CR^1_2-OH$ ) $\alpha,\beta$ -unsaturated aldehydes/ketones ( $C_{aryl,alkyl} = CH(OH)\text{-vinyl}, CR^1(OH)\text{-vinyl}$ )ketenes ( $C_{aryl,alkyl} = C(=O)CH_3$  in ketene,  $C(=O)-R$  in substituted ketenes)alkali metal and alkaline earth metal salts of carboxylic acids ( $C_{aryl,alkyl} = CHO$  in formates,  $COCH_3$  in acetates,  $R^1CO$  in  $R^1COOMet$ )aliphatic nitriles ( $C_{aryl,alkyl} = COCH_3$  in acetonitrile,  $R^1CO$  in  $R^1CN$ )aromatic nitriles ( $C_{aryl,alkyl} = COAr^1$ )amides ( $C_{aryl,alkyl} = CHO$  in  $HCONR^1_2$ ,  $C(=O)R^1$  in  $R^1CONR^1_2$ )esters ( $C_{aryl,alkyl} = [C(OH)R^1]_{0.5}$  or  $[[or]]$ )alkylating agents ( $C_{aryl,alkyl} = \text{alkyl}$ ), and mixtures thereof.

3. (original) The process as claimed in claim 1, wherein the reaction is performed at a temperature in the range from  $-100$  to  $+80^\circ\text{C}$ .
4. (original) The process as claimed in claim 1, wherein lithium is used in the form of a dispersion, powder, turnings, sand, granules, pieces or in the form of bars.

Attorney's Docket: 2001078307/02

Serial No.: 10/677,412

Art Unit: 1625

Response to Restriction Requirement of February 18, 2002

5. (Currently Amended) The process as claimed in claim 1, wherein the solvent used is an aliphatic or aromatic ether, a hydrocarbon or an amine which does not carry a hydrogen on the nitrogen atom, selected from the group consisting of triethylamine, diethyl ether, tetrahydrofuran, toluene, toluene-THF mixtures, anisole, and diisopropyl ether, and mixtures thereof.
6. (original) The process as claimed in claim 1, wherein the process is performed as a one-pot process.
7. (original) The process as claimed in claim 1, wherein the organolithium compound is first generated and then reacted with the carbon electrophile at the same or a slightly different temperature.
8. (original) The process as claimed in claim 1, where the straight-chain or branched C<sub>1</sub>-C<sub>8</sub>-alkyl is a C<sub>1</sub>-C<sub>7</sub>-alkyl and the C<sub>1</sub>-C<sub>8</sub>-alkoxy is a C<sub>1</sub>-C<sub>7</sub>-alkoxy.
9. (original) The process as claimed in claim 2, wherein the reaction is performed at a temperature in the range from -100 to +80°C.
10. (original) The process as claimed in claim 2, wherein lithium is used in the form of a dispersion, powder, turnings, sand, granules, pieces or in the form of bars.

Attorney's Docket: 2001DE307/D

Serial No.: 10/677,412

Art Unit: 1625

Response to Restriction Requirement of February 18, 2005

11. (Currently Amended) The process as claimed in claim 2, wherein the solvent used is an aliphatic or aromatic ether, a hydrocarbon or an amine which does not carry a hydrogen on the nitrogen atom, selected from the group consisting of triethylamine, diethyl ether, tetrahydrofuran, toluene, toluene-THF mixtures, anisole, [[and]] diisopropyl ether, and mixtures thereof.
12. (original) The process as claimed in claim 2, wherein the process is performed as a one-pot process.
13. (original) The process as claimed in claim 2, wherein the organolithium compound is first generated and then reacted with the carbon electrophile at the same or a slightly different temperature.
14. (original) The process as claimed in claim 3, wherein lithium is used in the form of a dispersion, powder, turnings, sand, granules, pieces or in the form of bars.
15. (Currently Amended) The process as claimed in claim 3, wherein the solvent used is an aliphatic or aromatic ether, a hydrocarbon or an amine which does not carry a hydrogen on the nitrogen atom, selected from the group consisting of triethylamine, diethyl ether, tetrahydrofuran, toluene, toluene-THF mixtures, anisole, [[and]] diisopropyl ether, and mixtures thereof.

Attorney's Docket: 2001DE397/D

Serial No.: 10/677,412

Art Unit: 1625

Response to Restriction Requirement of February 18, 2005

16. (original) The process as claimed in claim 3, wherein the process is performed as a one-pot process.
17. (original) The process as claimed in claim 3, wherein the organolithium compound is first generated and then reacted with the carbon electrophile at the same or a slightly different temperature.
18. (Currently Amended) The process as claimed in claim 4, wherein the solvent used is an aliphatic or aromatic ether, a hydrocarbon or an amine which does not carry a hydrogen on the nitrogen atom, selected from the group consisting of triethylamine, diethyl ether, tetrahydrofuran, toluene, toluene-THF mixtures, anisole [[and]] diisopropyl ether, and mixtures thereof.
19. (original) The process as claimed in claim 4, wherein the process is performed as a one-pot process.
20. (original) The process as claimed in claim 4, wherein the organolithium compound is first generated and then reacted with the carbon electrophile at the same or a slightly different temperature.

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**